

REMARKS

Reconsideration of the present application is respectfully requested. Claims 1,4 have been amended, claims 27-32 have been cancelled and claims 33, 34 have been added.

Claims 1-4, 6, 8 and 13 are rejected under 35 USC § 112, first paragraph, as failing to comply with the written description requirement. Claim 1 has been amended to recite substantially parallel and reflect specific specification language. Withdrawal of the § 112, first paragraph rejection is respectfully requested.

Claims 1-4, 6, 8, 13-20 and 27-32 are rejected under 35 USC § 102(e) as being anticipated by U.S. Patent No. 6,539,910 to Gaiser. Applicants respectfully traverse the § 102 rejection. It is well settled that the Commissioner, through the Examiner, bears the initial duty of supplying the factual basis supporting a rejection of a patent application, including a rejection under 35 U.S.C. § 102. See, In re Warner 154 USPQ 173, 177 (C.C.P.A 1967). Not only does a rejection founded under 35 U.S.C. § 102 “require[s] the disclosure in a single prior art reference of each element of the claim under consideration” (See, W.L. Gore and Assocs. Inc. v. Garlock, 220 USPQ 303, 313 (Fed. Cir. 1983)) but it further requires that “each and every element of the claimed invention, [must be] arranged as in the claim.” See, Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co., 221 USPQ 481, 485 (Fed. Cir. 1984). “The identical invention must be shown in as complete detail as contained in the . . . claim.” Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Independent claim 1, as amended defines a piston with a circumferential sidewall portion and a bottom wall portion defining a combustion bowl located within a solid head of the piston. In contrast Gaiser '910 discloses a piston body 12 wherein "the walls 14, 24, 32 and 36 define an interior, annular, ring-like cavity or gallery 42 within the piston body 12 that is closed by the walls." '910 Patent, Col. 2, L. 39-41. The '910 patent discloses teaches and suggests a piston having a closed gallery in the piston body for cooling and lubrication and not a piston having a solid head. Withdrawal of the § 102 rejection of claim 1 for at least the above reasons is respectfully requested.

In further review of the rejection of claim 1, the Applicants respectfully disagree with the Patent Office regarding the disclosure of a sharp edge at the intersection of the annular surface and a part of the sidewall portion that extends substantially parallel to the centerline. Upon review of the '910 Patent specification there is not noted any specific disclosure of a sidewall portion having a sharp edge at the intersection of the annular surface and a part of the sidewall portion extending substantially parallel to the centerline. Upon review of FIG – 4 of the '910 Patent the Examiner will note that the edge at the intersection with the annular surface, the sidewall portion and the rounded lip are not referenced by any feature number(s). The text of the '910 Patent is believed silent as to the configuration of the edge at the intersection of the annular surface and whether the sidewall portion is substantially parallel to a centerline. The small illustration of FIG – 4 in the '910 Patent appears to show the sidewall portion is not substantially parallel with the centerline. Withdrawal of the § 102 rejection of claim 1 for at least the above reasons is respectfully requested.

In further review of the rejection of independent claim 1, the Applicants respectfully disagree with the Patent Office regarding the disclosure of a sharp edge that directs a fuel passing out of said combustion bowl away from said annular surface. Upon review of the '910 Patent there is not found any express disclosure of directing a fuel passing out of the combustion bowl and away from the annular surface of the piston. The Applicants respectfully request that if the Patent Office is relying upon inherency to make the § 102 rejection the Examiner provide justification and the appropriate corresponding citations to show how the missing descriptive matter is necessarily present in the '910 Patent and would be recognized by one of ordinary skill in the art. Withdrawal of the § 102 rejection of claim 1 for at least the above reasons is respectfully requested.

The limitations of independent claim 14 include a piston body having a sharp edge portion extending around the entrance for directing a fuel exiting the combustion bowl away from the first end surface of the piston. The Applicants and the Examiner have a difference of opinion as to whether the '910 Patent discloses the sharp edge portion of claim 14. The text of the '910 Patent specification is silent as to the configuration where the combustion bowl terminates at the top of the piston. Upon review of the drawings of the '910 Patent it is not believed shown a sharp edge for directing a fuel exiting the combustion bowl away from the first end surface of the piston. Withdrawal of the § 102 rejection of claim 14 for at least the above reasons is respectfully requested.

Claims 1-4, 8, 13-18 and 27-32 are rejected under 35 USC § 102(a) as being anticipated by U.S. Patent No. 6,314,933 to Iijima. Applicants respectfully traverse the § 102 rejections of the claims. Independent claim 1, as amended, defines a piston with a circumferential sidewall portion and a bottom wall portion defining a combustion bowl located within a solid head of the piston. The piston further including a sharp edge at the intersection of an annular surface and a part of the sidewall portion extending substantially parallel to the centerline and a rounded lip overhanging a portion of the combustion bowl and spaced axially from the sharp edge. In contrast Iijima '933 discloses a piston having a cooling cavity 21 which constitutes a flow passage for cooling oil with the piston. The '933 Patent discloses teaches and suggests a piston having a cooling cavity 21 located in the piston body for circulating cooling oil and not a piston having a solid head. Withdrawal of the § 102 rejection of claim 1 for at least the above reasons is respectfully requested.

Independent claim 1, as amended, includes a substantially rounded lip overhanging a portion of the combustion bowl. Upon review of the '933 Patent there should be readily noted that the rounded portion 17 does not overhang a portion of the combustion bowl 11. Withdrawal of the § 102 rejection of claim 1 for at least the above reasons is respectfully requested.

In further review of independent claim 1, the Applicants respectfully disagree that the '933 Patent discloses a sharp edge at the intersection of the annular surface and part of the sidewall portion extending substantially parallel to the centerline and a substantially rounded lip overhanging a portion of the combustion bowl and spaced axially from the sharp edge and an upwardly flared portion located between the sharp

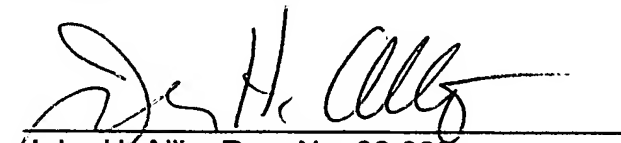
edge and the substantially rounded lip. Upon review of the reference there is not noted a corresponding structure including a sharp edge and a substantially rounded lip with an upwardly flared portion located between them. Withdrawal of the § 102 rejection of claim 1 for at least the above reasons is respectfully requested.

Independent claim 14 defines an apparatus including a rounded portion for receiving fuel thereon within the combustion bowl; and the rounded portion overhangs a portion of the combustion bowl. Upon review of the '933 Patent there is noted that there is not disclosed a rounded portion that overhangs a portion of the combustion bowl 11. Withdrawal of the § 102 rejection of claim 1 for at least the above reasons is respectfully requested

Dependent claims 2-4, 6, 8, 13, 15-20 and 34 are believed at least allowable as they depend from independent claims that are believed allowable over the art of record.

Reconsideration of the above-identified patent application is respectfully requested. The Examiner is respectfully requested to issues a Notice of Allowability for the present application. The Applicants respectfully request a telephonic interview to attempt to resolve any matters that may be preventing the issuance of a Notice of Allowability for the present application. The Examiner is cordially invited to contact the undersigned by telephone to discuss any unresolved matters.

Respectfully Submitted,



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